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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,983	05/20/2008	Lorna M Kessell	011801-0052-999	8775

20583 7590 03/01/2011

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EXAMINER	
SASAN, ARADHANA	
ART UNIT	PAPER NUMBER
1615	
MAIL DATE	DELIVERY MODE
03/01/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,983	KESSELL ET AL.	
	Examiner	Art Unit	
	ARADHANA SASAN	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-26* is/are pending in the application.

4a) Of the above claim(s) *21-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-20,25 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Status of Application

1. The remarks and amendments filed on 02/10/11 are acknowledged.

2. Claim 2 was cancelled. Claims 1, 6, 9, 11-12 and 19 were amended. New claims 25-26 were added.

3. Claims 21-24 were withdrawn from consideration.

4. Claims 1, 3-20 and 25-26 are included in the prosecution.

Response to Arguments

Claim Objections

5. In light of the amendments of claims 9 and 19, the objection with respect to these claims is withdrawn.

Rejection of claims 6 and 19 under 35 USC § 112, second paragraph

6. In light of the amendment of claims 6 and 19, the rejection under 35 USC § 112, second paragraph is withdrawn.

New claims 25-26

7. New claims 25-26 are included in the rejection under 35 USC § 103 below. Since the new ground(s) of rejection for the newly added claims was necessitated by Applicant's amendment, this action is made FINAL.

MAINTAINED REJECTIONS:

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 1, 3-20 remain** rejected and **new claims 25-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda (WO 98/26752) in view of Kessell (WO 03/041677 A2).

The claimed invention is a water-in-silicone oil emulsion comprising:

(i) in the range from 0.1 to 25% by weight of particles of metal oxide in an aqueous dispersion, wherein the dispersed metal oxide particles have a median particle volume diameter in the range from 18 to 32 nm,

(ii) 5 to 60% by weight of silicone oil, and

(iii) greater than 20% by weight of water;

wherein the emulsion comprises a change in whiteness ΔL of less than 3.

Masuda teaches a water-in-oil emulsion containing an aqueous phase; ultra fine titanium dioxide particles in a dispersion; and an oil phase (Abstract). Table 1 discloses Examples 1-4 which contain from 5.00% - 10.00% ultra fine titanium dioxide dispersion, 30.50% silicone, and at least 20% by weight of water (Ex. 1 has 29.33%, Ex. 2 has

26.83%, Ex. 3 has 24.33%, and Ex. 4 has 27.33%) (Page 14, Table 1). The ultra fine titanium dioxide-water dispersion comprises from about 0.2% to about 18% by weight of an ultra fine titanium dioxide (Page 16, claim 1). The emulsification of the oil phase and aqueous phase is disclosed (Page 14, lines 1-15). The ultra fine titanium dioxide has an average particle size of from about 10 nm to about 100 nm (Page 8, lines 21-22).

Masuda does not expressly teach the median particle volume diameter in dispersion in the range from 18 to 32 nm.

Kessell teaches compositions of aqueous dispersions used for preparing sunscreen compositions especially in the form of emulsions (Abstract, Page 12, lines 30-31, claims 1-25). The composition comprises metal oxide particles having a median volume particle diameter of "less than 45 nm, suitably less than 40 nm, preferably less than 36 nm, more preferably in the range from 22 to 30 nm, particularly 24 to 30 nm, and especially 24 to 27 nm" (Abstract and Page 5, lines 30-35). Titanium dioxide is the preferred metal oxide (Page 2, lines 29-30). Example 3 discloses a fluid dispersion containing water, silicone (as a defoamer), titanium dioxide, and surfactant, i.e., a water-in-silicone oil emulsion (Page 16, line 32 to Page 17, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to prepare a water-in-silicone oil emulsion comprising 0.2% to about 18% by weight of ultra fine titanium dioxide particles having an average particle size of from about 10 nm to about 100 nm, 30.50% silicone, and at least 20% by weight of water, as taught by Masuda, use metal oxide (titanium dioxide) particles having a median particle volume diameter of less than 45 nm (suitably less than 40 nm,

preferably less than 36 nm, more preferably in the range from 22 to 30 nm, particularly 24 to 30 nm, and especially 24 to 27 nm), as suggested by Kessell, and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because both references are drawn to preparing compositions comprising water-in-silicone emulsions that contain silicone, metal oxide particles, and water. Metal oxide particles are known to be used in water-in-silicone oil emulsions and the simple substitution of one known element (metal oxide particles taught by Masuda - ultra fine titanium dioxide particles) for another (metal oxide particles having a median particle volume diameter of less than 45 nm – as taught by Kessell) to obtain predictable results is obvious. Please see MPEP 2141.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Regarding instant **claim 1**, the limitation of a water-in-silicone oil emulsion is obvious over the water-in-silicone oil emulsion taught by Masuda (Abstract and Page 14, Table 1) and by the fluid dispersion containing water, silicone, and titanium dioxide taught by Kessell (Page 16, line 32 to Page 17, line 3, Example 3). The limitation of the range from 0.1 to 25% by weight of particles of metal oxide is obvious over Examples 1-4 which contain from 5.00% - 10.00% ultra fine titanium dioxide dispersion (Page 14,

Table 1) and where the ultra fine titanium dioxide-water dispersion comprises from about 0.2% to about 18% by weight of an ultra fine titanium dioxide (Page 16, claim 1) as taught by Masuda. The limitation of the metal oxide particles having a median particle volume diameter in dispersion in the range from 18 to 32 nm is obvious over metal oxide particles having a median volume particle diameter of "less than 45 nm, suitably less than 40 nm, preferably less than 36 nm, more preferably in the range from 22 to 30 nm, particularly 24 to 30 nm, and especially 24 to 27 nm" as taught by Kessell (Abstract and Page 5, lines 30-35). The limitation of 5 to 60% by weight of silicone oil is obvious over the 30.50% silicone, as taught by Masuda (Page 14, Table 1). The limitation of greater than 20% by weight of water is obvious over the at least 20% by weight of water (Ex. 1 has 29.33%, Ex. 2 has 26.83%, Ex. 3 has 24.33%, and Ex. 4 has 27.33%), as taught by Masuda (Page 14, Table 1). The limitation of the metal oxide incorporated into the emulsion in the form of an aqueous dispersion is obvious over the ultra fine titanium dioxide particles in aqueous dispersion that is incorporated into the water-in-silicone oil emulsion, as taught by Masuda (Abstract and Page 14, Table 1) and by the aqueous dispersion containing particulate titanium dioxide, as taught by Kessell (Pages 15-17, Examples 1-4, claim 2).

Regarding instant **claim 3**, the limitation of the metal oxide particles that are hydrophobic is obvious over the ultra fine titanium dioxide particles that are hydrophobic, as taught by Masuda (Page 8, lines 23-30, Page 17, claim 8) and by the hydrophobic metal oxide particles taught by Kessell (Page 1, line 5, and line 35 to Page 2, line 2).

Regarding instant **claim 4**, the limitation of titanium dioxide particles is obvious over the ultra fine titanium dioxide particles, as taught by Masuda (Abstract and Page 14, Table 1) and by the particulate titanium dioxide, as taught by Kessell (Pages 15-17, Examples 1-4, claim 2).

Regarding instant **claim 5**, the limitation of the mean length of the metal oxide particles in the range from 50 to 90 nm is obvious over the metal oxide particle having the mean length in the range from 50 to 90 nm, as taught by Kessell (Abstract). The limitation of the mean width of the metal oxide particles in the range from 5 to 20 nm is obvious over the metal oxide particle having the mean width in the range from 5 to 20 nm, as taught by Kessell (Abstract).

Regarding instant **claim 6**, the limitation of the metal oxide particles having a median particle volume diameter in dispersion of 23 to 29 nm is obvious over metal oxide particles having a median volume particle diameter of "less than 45 nm, suitably less than 40 nm, preferably less than 36 nm, more preferably in the range from 22 to 30 nm, particularly 24 to 30 nm, and especially 24 to 27 nm" as taught by Kessell (Abstract and Page 5, lines 30-35).

Regarding instant **claims 7-8**, the limitations of the metal oxide particle volume diameters are obvious over the teaching by Kessell that: "The metal oxide particles suitably have no more than 16% by volume of particles having a volume diameter of less than 16 nm, preferably less than 20 nm, more preferably less than 22, particularly less than 24 nm, and especially less than 25 nm. In addition, the metal oxide particles suitably have more than 84% by volume of particles having a volume diameter of less

than 50 nm, preferably less than 40 nm, more preferably less than 35, particularly less than 30 nm, and especially less than 28 nm" (Page 6, lines 2-8). One of ordinary skill in the art would find it obvious to manipulate the dimensions and volume of the metal oxide particles and arrive at the instantly claimed volume diameters.

Regarding instant **claims 9-10**, the limitation of the metal oxide particles having an extinction coefficient at 524 nm of less than 1.5 l/g/cm is obvious over the extinction coefficient at 524 nm (E524) of less than 1.5; the limitation of an extinction coefficient at 450 nm in the range from 0.2 to 3.0 l/g/cm is obvious over the extinction coefficient at 450 nm of less than 3.0, preferably in the range of 0.1 to 2.0; the limitation of an extinction coefficient at 360 nm in the range from 4.0 to 12.0 l/g/cm is obvious over the extinction coefficient at 360 nm of greater than 3, preferably in the range from 5 to 10; the limitation of an extinction coefficient at 308 nm in the range from 35 to 65 l/g/cm is obvious over the extinction coefficient at 308 nm in the range of 35 to 65; the limitation of a maximum extinction coefficient in the range from 50 to 80 l/g/cm is obvious over the maximum extinction coefficient in the range from 50 to 80; the limitation of a λ(max) in the range from 265 to 287 nm is obvious over the λ(max) in the range from 260 to 290 as taught by Kessell (Page 6, line 28 to Page 7, line 10).

Regarding instant **claim 11**, the limitation of the aqueous dispersion comprising at least 25% by weight of metal oxide particles is obvious over the aqueous dispersion comprising at least 35%, preferably at least 40% by weight of metal oxide particles (Page 20, claim 17) and the fluid dispersion containing 200 g of titanium dioxide for a

calculated weight % of 40.20% (200 g of titanium dioxide ÷ 497.5 g total = 40.20%) as taught by Kessell (Page 16, Example 3, lines 32-37).

Regarding instant **claims 12-13,** the limitation of the aqueous dispersion comprising 2 to 15% by weight of at least one dispersing agent is obvious over the use of about 0.002% to about 7.2% of a nonionic surfactant, as taught by Masuda (Page 16, claim 1) and over the nonionic surfactants used at a calculated level of 9.65% (24 g of isodecyl alcohol 6-ethoxylate + 24 g of oleyl alcohol 10-ethoxylate = 48 g ÷ 497.5 g total = 9.65%) as taught by Kessell (Page 16, Example 3, lines 32-37).

Regarding instant **claim 14**, the limitation of 5 to 50% by weight of at least one non-ionic dispersing agent, calculated with respect to the metal oxide particles is obvious over the dispersible polymer used at about 0.1% to about 10% by weight, as taught by Masuda (Page 16, claim 1). One of ordinary skill in the art would find it obvious to use this level of dispersible polymer and calculate the weight percent of the polymer with respect to the weight of the metal oxide particles during the process of routine experimentation.

Regarding instant **claim 15**, the limitation of 0.1 to 10% by weight of at least one emulsifier is obvious over the emulsifiers (Page 5, line 14, Page 12, lines 29-31), the use of emulsifiers at about 0.5% to about 10% (Page 11, lines 9-11), and the use of 2.25% emulsifiers, as taught by Masuda (Page 14, Table 1, Ex. 1-5).

Regarding instant **claim 16**, the limitation of a silicone emulsifier is obvious over the emulsifiers useful for water-in-silicone emulsions including polydiorganosiloxane-

polyoxyalkylene copolymers, dimethicone copolyol, as taught by Masuda (Page 11, lines 3-11).

Regarding instant **claim 17**, the limitation of less than 10% by weight of any oil other than silicone oil is obvious over the oils that may comprise paraffins, hydrocarbons, esters, and ethers and where about 90% of the oil phase is volatile silicones, non-volatile silicones and mixtures thereof, as taught by Masuda (Page 4, lines 5-11). Therefore, if about 90% of the oil phase is composed of silicones, about 10% will be non-silicone.

Regarding instant **claim 18**, the limitation of silicone oil as the sole oil is obvious over the preferred silicone oil phase, as taught by Masuda (Page 4, lines 13-15).

Regarding instant **claim 19**, the limitation of a change in whiteness ΔL of less than 3 is obvious over the change in whiteness ΔL of less than 3, as taught by Kessell (Page 7, lines 12-15).

Regarding instant **claim 20**, the limitation of a whiteness index in the range from 10 to 90% is obvious over the whiteness index of less than 100%, more preferably in the range from 10 to 80%, as taught by Kessell (Page 7, lines 15-18).

Regarding **new claim 25**, the limitation of the silicone oil comprising at least one non-volatile silicone oil is obvious over the non-volatile silicones taught by Masuda (Page 4, lines 9-18, Page 4, line 32 to Page 5, line 3).

Regarding **new claim 26**, the limitation of the emulsion that is substantially exclusive of volatile silicone oils is obvious over the non-volatile silicones such as

dimethicones taught by Masuda (Page 4, lines 9-18, Page 4, line 32 to Page 5, line 3). Claim 26 is silent with respect to the amount of volatile silicone oils that may be incorporated in the emulsion while still remaining "substantially exclusive of volatile silicone oils."

Response to Arguments

10. Applicant's arguments, see Page 5, filed 02/10/11, with respect to the rejection of claims 1-20 under 35 USC § 103(a) as being unpatentable over Masuda (WO 98/26752) in view of Kessell (WO 03/041677 A2) have been fully considered but are not persuasive.

Applicant argues that: "... Kessell is directed towards providing an oil-in-water emulsion, such as in Example 4 of Kessell, and there is no teaching or suggestion of a water-in-oil emulsion, much less a water-in-silicone oil emulsion. Accordingly, Applicants submit that the pending rejection fails to provide the necessary motivation as to why the skilled artisan, developing a water-in-oil emulsion, would rely on the oil-in-water emulsion of Kessell to provide the specified metal particles of the pending claims. Moreover, there is no teaching - much less suggestion - that even such a combination would achieve the benefits of the pending claims."

This is not persuasive because Kessell is not relied upon for teaching a water-in-silicone oil emulsion. The primary reference, Masuda, teaches the water-in-oil emulsion. The deficiency in Masuda is regarding the median particle volume diameter in dispersion in the range of 18 to 32 nm. Kessell is relied upon to remedy this deficiency in Masuda since Kessell teaches compositions of aqueous dispersions containing metal

oxide particles having a median volume particle diameter less than 45 nm. Moreover, Kessell discloses a fluid dispersion in Example 3. MPEP 2123 states that: “A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments.” The teaching of Kessell is not limited to just Example 4 but to the disclosure as a whole, which suggests the use of metal oxide particles having a median volume particle diameter of less than 45 nm and where the metal oxide particles are present in a fluid dispersion.

Masuda and Kessell are properly combined because both references are drawn to preparing compositions comprising water-in-silicone emulsions that contain silicone, metal oxide particles, and water. Metal oxide particles are known to be used in water-in-silicone oil emulsions and the simple substitution of one known element (metal oxide particles taught by Masuda - ultra fine titanium dioxide particles) for another (metal oxide particles having a median particle volume diameter of less than 45 nm – as taught by Kessell) to obtain predictable results is obvious. Please see MPEP 2141.

Applicant argues that: "... Masuda is directed to providing a foundation product containing high concentrations of pigments and fillers. For instance, in each of Masuda's exemplified foundations, such as in Examples 1-4, which were highlighted by the Examiner, the foundations include 15.5 wt.% of pigments and fillers. Accordingly, it is submitted that the foundations of Masuda would at least fail to provide the whiteness values of the pending claims.”

This is not persuasive because instant claims do not exclude the pigments and fillers disclosed by Masuda. Instant claims contain the transitional phrase “comprising”

which is considered open language and does not exclude additional components such as pigments and fillers. Moreover, intended use of the claims is not given patentable weight (since claims are drawn to a product).

Applicant argues that: "… given that Kessell is further directed towards producing aqueous dispersions of metal oxide particles having improved transparency, it is counter intuitive to suggest that one skilled in the art would consider using the transparent metal oxide particles of Kessell in the high pigment/filler concentrated foundation of Masuda."

This is not persuasive because Kessell teaches metal oxide particles which are not transparent, i.e., titanium dioxide particles (Page 16, Example 3) which are generally used as opacifiers and not as transparency enhancers.

Therefore, the rejection of 11/10/10 is maintained.

Conclusion

11. No claims are allowed.

12. Since this new rejection was necessitated by applicant's amendment, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aradhana Sasan whose telephone number is (571) 272-9022. The examiner can normally be reached Monday to Thursday from 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Wax, can be reached at 571-272-0623. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Aradhana Sasan/
Examiner, Art Unit 1615

/Humera N. Sheikh/
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